

NOTES ON MABEA (EUPHORBIACEAE) IN CENTRAL AMERICA,  
TOGETHER WITH COMMENTS ON SECT. APODAE IN BRAZIL

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MABEA EXCELSA Standley & Steyerf., Publ. Field Mus.  
Nat. Hist., Bot. Ser. 23: 123. 1944. TYPE:  
Guatemala. Quezaltenango: Colomba, 2800 ft, 27  
Dec. 1934 (fr), Alexander F. Skutch 2008  
(holotype, F), distributed as "Gymnanthes?"

Tree 5-10(-30) m high, the twigs and herbage  
glabrous. Leaves alternate; stipules deltate, 0.5-1 mm  
long, caducous; petioles 4-13 mm long; blades  
membranous to chartaceous, 5-11 cm long, 1.5-4.5 cm  
wide, 1.8-4 times as long as wide, oblong to oblong-  
lanceolate, shiny above, glaucous below, the base  
rounded to obtuse, the margins short-serrate, the apex  
strongly cuspidate-acuminate; lateral nerves 10-18 per  
side, prominulous below, the tertiary veins reticulate,  
conspicuous. Thyrses arranged in panicles at ends of  
branches, short-pedunculate, 3-8 cm long, 4-12 mm wide,  
densely puberulent, wholly staminate or with a single  
pistillate flower at the base. Staminate flowers in  
small sessile 3-flowered umbels, these subtended by  
biglandular bracts, the glands oblong, 0.7-1 mm long,  
not raised above the axis of the thyrses; calyx 5-lobed,  
the lobes unequal, to 0.8 mm long; stamens 3-6.  
Pistillate flowers subtended by paired oblong eglandular  
bracts ca. 0.8 mm long; peduncles ca. 5 mm long;  
calyx 6-lobed, 1.5-2.3 mm long, the lobes acuminate;  
styles 6-8 mm long, connate ca. half their length.  
Capsules ovoid to subglobose, very shallowly 3-lobed,  
12-14 mm long, 12-15 mm in diameter, minutely and  
densely brown-puberulent; seeds 7-10 mm long, 6-7 mm  
wide.

ADDITIONAL SPECIMENS. COSTA RICA. PUNTARENAS: a la  
par del Rio General, 19 May 1967 (fl), Sáenz & Nassar  
129 (USJ-4444).

NICARAGUA. GRANADA: Volcán Mombacho, road to  
Hacienda Cutirre, ca. 11° 50' 05" N, 85° 56' W, ca. 480 m, 7  
May 1983 (fl), Grijalva 2522 (F); Volcán Mombacho,  
Finca "Las Delicias," 10 km S of Granada, 11° 51' N,

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85°57'W, ca. 340-360 m, 11 May 1981 (fl), Moreno & Henrich 8444 (F). MATAGALPA: along road from Muy Muy to Equipulas, ca. 19 km W of Muy Muy, ca. 12°42'N, 85°45'W, ca. 400 m, 30 July 1978 (fl), Stevens 9561 (MO).

MEXICO. CHIAPAS: Husicil, Escuintla, 18 July 1947 (fl, fr), Matuda 16728 (F).

Because it has long been known only from fruiting material, the systematic position of Mabea excelsa has been uncertain, and identifying characteristics have been hard to come by. In the protologue, it was distinguished from M. occidentalis Benth., the only other Guatemalan species, by the absence of a collecting nerve along the margins of the leaves of the former and by the smaller seeds of the latter. Comparison of the type specimen of M. excelsa with abundant collections of M. occidentalis from Central America, however, fails to reveal any convincing differences in either seed size or venation of the leaves.

The capsules of the type specimen of M. excelsa are arranged separately on short branchlets loosely clustered at the ends of leafy shoots. This indicates a paniculate arrangement of the thyrses, a relatively uncommon state in Mabea that is best known in the widespread South American species M. nitida Benth. By contrast, M. occidentalis has solitary terminal thyrses, the more usual condition.

In recent years several flowering collections of M. excelsa from Central America have become available, making possible for the first time a description of the inflorescences and flowers, as well as an assessment its relationships within Mabea. These additional collections also constitute a considerable range extension for the species, which had previously been known only from Guatemala and the state of Chiapas, Mexico.

In the system of Pax & Hoffmann (1912: 26-42), Mabea excelsa would be assigned to section Apodae Pax & K. Hoffm. by virtue of the disposition of the staminate flowers in sessile 3-flowered umbels, in contrast to the pedunculate cymules of sections Intermediae Pax & K. Hoffm. and Umbelluliferae Pax & K. Hoffm., or the spiciform racemes of section Spiculigerae Pax & K. Hoffm. The species of section Apodae, other than M. excelsa, are known only from Brazil, where there are at least three, and perhaps as many as five, species. All have the delicate thyrses arranged in panicles that are characteristic of M. excelsa. The only species that has been collected with any degree of frequency is M. paniculata Spruce ex Benth. from the rainforests of Pará. Mabea pohliana (Benth.) Muell. Arg. is a distinct-

tive species from Bahia and Goiás. An obscure pair of species from Mato Grosso, *M. crenulata* S. Moore and *M. indorum* S. Moore, have heretofore been known only from their types. According to Pax (1912) these two species differ only in the lengths of the staminate pedicels (ca. 1 mm in *M. crenulata*, to 4 mm in *M. indorum*), and further collections may well show that only a single species is involved. Two modern collections matching the description in *M. indorum* are now available and are cited below. The only other species assigned to sect. *Apodae* by Pax, *M. anomala* Muell. Arg., is apparently still known only from the type collected by Riedel near Manaus, and is unknown to me except from the description.

Within sect. *Apodae*, *M. excelsa* is most easily distinguished by the number of stamens per flower, which is 2 or 3 in *M. pohliana*, 3-6 in *M. excelsa*, and 10-12 in the remainder of the section. It further differs from *M. pohliana*, the only species in which the stamen number approaches that of *M. excelsa*, by its glabrous leaves in contrast to the ferruginous-tomentose leaves of *M. pohliana*.

ADDITIONAL SPECIMENS OF *Mabea indorum*. BRAZIL. MATO GROSSO: on the banks of Rio dos Bugres, Oct. 1891 (fl), Spencer Moore 436 (holotype presumably at BM, not seen; photo of isotype, F! ex B, F neg. 5423); Mun. Nobres, along Rio Celeste at BR 163, 52 km S of Sinop (km 775), 12°18'S, 55°37'W, 16 Sept. 1985 (fl), Thomas et al. 3806 (MO, NY); Mun. São Felix do Araguaia, W bank of Rio Araguaia on islet called Lago Inglês, 11°34'S, 50°43'W, 7 Oct. 1985, Thomas et al. 4263 (MO, NY).

MABEA JEFENSIS Huft, sp. nov. TYPE: Panama. Panamá: newly bulldozed trail off Cerro Jefe road, 0.4 km beyond turnoff to Alto de Pacora, 29 Sept. 1975 (fl, fr), J. T. & F. Witherspoon 8570 (holotype, MO).

Arbor parva, ramunculi foliaque glabra. Folia oblonga, oblonga-elliptica vel late lanceolata, supra nitida, infra glauca, basi obtusa vel rotundata, margine integra vel remote serrulata, apice brevius-acuminata vel cuspidata. Inflorescentia terminalis puberula, pilis minutis brunneis stellatis; cymulae masculae glandulae elevatis; stamina 10-15 in quoque flore. Capsula ovoidea dense puberula, pilis minutis stellatis brunneis vel rubris; styli ad fructus maturitatem 4-9 mm longi; semina ovoidea lateraliter

compressa atrobrunnea.

Shrub or small tree, 2-10 m high, the twigs and herbage glabrous. Leaves alternate; stipules narrowly lanceolate, 5-10 mm long, caducous; petioles 5-12 mm long; blades membranous to chartaceous, 6-14 cm long, 2.5-6.5 cm wide, 1.8-3 times as long as wide, oblong, oblong-elliptic, or broadly lanceolate, the upper surface usually shiny, the lower usually glaucous, the base obtuse to rounded, the margin entire to remotely serrulate, the apex short-acuminate or cuspidate; lateral nerves 10-14 per side, prominulous below, the tertiary veins reticulate, conspicuous. Thyrses terminal, solitary, puberulent with minute brown stellate hairs, bearing solitary pistillate flowers toward the base and numerous 3-flowered staminate cymules distally, these subtended by biglandular bracts, the glands oblong, elevated above the rachis; peduncle 3-4 mm long; calyx 5-lobed, the lobes connate for 1/4 to 1/2 their length, broadly ovate or deltate, 0.8-1.2 mm long; stamens 10-15. Pistillate flowers 2 or 3, solitary at basal nodes; bracts deltate, eglandular, ca. 3 mm long, ca. 2 mm wide; pedicel 2-8 mm long, calyx lobes separate, subequal, ovate, ca. 2 mm long, ca. 1.5 mm wide; undivided portion of the styles at maturity 4-9 mm long. Capsules ovoid, 10-12 mm long, minutely and densely puberulent with reddish or brownish stellate hairs; seeds ca. 1 cm long, ovoid, laterally compressed, dark brown, smooth, with a yellow caruncle ca. 1.5 mm in diameter.

Mabea jefensis is endemic to Panama and differs from the other two species of Mabea there (M. montana Muell. Arg. and M. occidentalis Benth.) by the elevated glands of the staminate cymules, the smaller number of stamens (10-15 vs. more than 30), and the shorter undivided portion of the styles at maturity (4-9 mm vs. 12-20 mm). It seems to be most closely related to M. piriri Aublet of the lowland rainforests of Venezuela, Guayana, and Suriname. Both species are small trees with similar habits, leaves, and inflorescences. The inflorescence of M. piriri, however, is larger and is densely white-puberulent. The peduncles and pedicels of flowers of both sexes are longer and more flexuous in M. piriri, and the capsules are larger. Furthermore, the staminate cymules of M. jefensis are more or less recurved at the tip of the peduncles, whereas those of M. piriri are not.

Mabea jefensis is known from abundant collections in montane and premontane rainforests between 350 and 1000 m both from the Cerro Jefe area and from the

Continental divide north of El Llano in eastern Panama province, as well as from a single collection from the Cañazas mountain range in the western part of the province. The species is illustrated in Webster & Huft (1987), where numerous additional collections are also cited.

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